Award Number: W81XWH-11-1-0831

TITLE: Application of Near Infrared Spectroscopy, Intravascular Ultrasound and the Coronary Calcium Score to Predict Adverse Coronary Events

PRINCIPAL INVESTIGATOR: Dr. Charles Lambert

CONTRACTING ORGANIZATION: University Community Hospital
Tampa, FL 33613

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PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

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Application of Near Infrared Spectroscopy, Intravascular Ultrasound and the Coronary Calcium Score to Predict Adverse Coronary Events

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6. AUTHOR(S)
Dr. Charles Lambert

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5d. PROJECT NUMBER

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AND ADDRESS(ES)
University Community Hospital
3100 East Fletcher Ave
Tampa, Florida 33613

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13. SUPPLEMENTARY NOTES

14. ABSTRACT
Final IRB approval was granted effective July 15, 2013. Patient screening, enrollment and data acquisition is ongoing. Additional co-investigators have been added to the study including James Smith, MD, Vasco Marques, MD, Mohammed Tabesh, MD, Jordan Hopkins, MD, Asad Sawar, MD, Alex Michel, MD, Faisal Shaikh, MD and Hesham Fakhri, MD.

473 patients have been screened for the study.

53 patients have completed enrollment and imaging. One SAE, unrelated to the study, was reported to the IRB.

Study operation continues as planned.

15. SUBJECT TERMS
coronary artery disease, near infrared spectroscopy, calcium scoring, intravascular ultrasound

16. SECURIY CLASSIFICATION OF:

a. REPORT U					
b. ABSTRACT U	c. THIS PAGE U		17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 13	19a. NAME OF RESPONSIBLE PERSON USAMRMC 19b. TELEPHONE NUMBER *(include area code)*

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Introduction

The aim of the present project is to

1. Utilize near infrared intra-coronary spectroscopy as an adjunctive technique during cardiac catheterization to identify potential vulnerable plaque morphology
2. Relate its presence to intermediate and long-term outcomes in patients defined as angina, myocardial infarction, death, congestive heart failure, stroke and need for revascularization over five years.
3. To compare near infrared intra-coronary spectroscopy data to that from coronary calcium scoring, angiographic findings and intracoronary ultrasound in predicting those outcomes in #2.

Body

Revision and review of the original protocol was followed by institutional review board approval of the protocol with final informed consent revision effective on July 15 2013.

Data for run-in patients were previously described.

Subsequently, additional co-investigators have been added to the study including James Smith, MD, Vasco Marques, MD, Mohammed Tabesh, MD, Jordan Hopkins, MD, Asad Sawar, MD, Alex Michel, MD, Faisal Shaikh, MD and Hesham Fakhri, MD.

Improved catheters and console components were obtained in January 2014 and retraining was completed.

Test calcium scoring was performed and active patient recruitment was begun.

Key Research Accomplishments

As of the last annual report, 79 Patients had been screened for the study. All imaging and enrollment was done for 14 patients.

Currently 473 patients have undergone screening and 53 have completed all imaging and have been enrolled for long term follow-up.

Recruitment for the trial is on track when compared to similar invasive, significant risk coronary trials (2 patients per month).

A no cost extension was requested last quarter to continue patient accrual and data collection. (see appendix)

Recently, the clinical research coordinator assigned to this study resigned due to personal reasons and recruitment is underway for a replacement.

Approval has been granted to apply the present protocol to patients undergoing Bioflow coronary stent implantation. This will expand our possible screening population.

Reportable Outcomes

Data are being accrued.

Conclusion

Near infrared spectroscopy and simultaneous intravascular ultrasound images can be obtained safely in patients. Using these technologies make identification of vulnerable plaques possible the current study valuable as defined in the statement of work.

References

None

Appendices

6 Month Interim IRB Review

FLORIDA HOSPITAL
PEPIN HEART INSTITUTE
Dr. Kiran C. Patel Research Institute
The skill to heal. The spirit to care.®

May 28, 2015

Charles Lambert, M.D.
Florida Hospital Pepin Heart and
Dr. Kiran C. Patel Research Institute
3100 East Fletcher Avenue
Tampa, FL 33613

RE: Full Board Continuing Review: **IRB #2012-018-489208-5**
Approval Status: Approved for 12 months with a 6 month Interim Report Requirement
Approval Expiration: June 13, 2016
Interim Report Due Date: December 13, 2015
Study Status: Open to Enrollment
Study Type: Prospective Data Collection
Protocol Version: v. 5/2012

Protocol Title: DOD Study: **"PROPOSAL 10169004 Application of Intracoronary Near Infrared Spectroscopy, Intravascular Ultrasound and the Coronary Calcium Score to Predict Adverse Coronary Events"**

Dear Dr. Lambert,

The Florida Hospital Tampa Bay Network Institutional Review Board (IRB) acknowledges receipt of the Continuing Review for the DOD research protocol. The IRB has reviewed at its May 19, 2015 meeting, the following:

- Continuing Review form dated 1May2015
- Informed Consent form (Clean): v. 05/19/15 (corrected version)
- Informed Consent form (showing changes): v. 05/19/15 (corrected version)
- Informed Consent form (Last Stamped ICF): v. 06/13/14

Recusal Record

Neither Charles Lambert, M.D., nor any members of the research team participated in the review/approval of this submission.

The approval is subject to the following conditions:

1. You are required to conduct a **06 month** interim review & **12 month** annual review of the research and report that review in writing to the IRB.
   Food and Drug Administration (FDA) regulation **21 CFR 56.103** requires all research to be subject to IRB review, no less than once per year. Continuing Review that does not occur prior to the end of the approval period as specified by the IRB **(see valid through date)**, results in automatic expiration of the approval **(21 CFR 56.103)**. Continuation of research after expiration of the approval can result in termination of the research **(21 CFR 56.113)**.

2. You are required to report any changes in research activity promptly to the IRB. In accordance with Food and Drug Administration regulation **21 CFR 56.108(a)(2)**, the IRB requires all changes in approved research to be promptly reported to, and approved by the IRB. Failure to report changes can result in termination of the research **(21 CFR 56.113)**.
3. Changes in approved research may not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
4. You are required to promptly report to the IRB any unanticipated problems or adverse events involving risks to subjects or others.
5. If applicable, you are required to give information to subjects as part of informed consent in accordance with applicable law.
6. If applicable, you shall obtain and retain documentation of informed consent. The subject must be given a copy of the consent. **The Informed Consent must have the IRB approval stamp to be valid.**

   Informed Consent "Valid Through" Date Process:

   1) The Informed Consent valid through date coincides with the Continuing Review approval period.
   2) Unless the consent form contains revisions that require study participants to be re-consented, the last informed consent form signed by study participants remains valid. Participants **do not** need to be re-consented with the newly approved form.

7. You are required to submit a Final Report of Research to the IRB upon completion of the trial, including data analysis reports, publications, etc. Food and Drug Administration (FDA) Title 21 of the Code of Federal Regulations, part 812.150 (21 CFR 812.150) requires a Final Report of Research to be submitted to the IRB.
8. **Retaining the Original Valid Through Date:** If, (a) the IRB grants approval for one year at the time of each continuing review, and (b) the IRB performs continuing review and re-approves (with or without conditions) the research within 30 days ***before*** the IRB approval period expires, the IRB may retain the anniversary of the expiration date of the initial IRB approval.

   This approval has met criteria and retains the prior expiry date of June 13th.

   Guidance for IRBs, Clinical Investigators, and Sponsors IRB Continuing Review after Clinical Investigation Approval
   http://www.fda.gov/downloads/RegulatoryInformation/Guidances/UCM197347.pdf

Please refer to the Florida Hospital Tampa Bay Network IRB Handbook (also known as the Research Ethics Review Board Handbook), located in IRBNet, if you require further clarification of these requirements. You may also refer to Title 21 Part 56 of the Code of Federal Regulations, or to Title 45 part 46 for department of Health and Human Services studies, at the following websites:

Food and Drug Administration: http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/cfrsearch.cfm

Health and Human Services: http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm

If you have any questions or concerns, please contact the IRB office at (813) 615-7200, x56516, for assistance. Thank you for your research activity at Florida Hospital Tampa Bay.

Sincerely,

Wayne Taylor, Pharm.D.
Co-Chair, Florida Hospital Tampa Bay Network IRB

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FLORIDA HOSPITAL
PEPIN HEART INSTITUTE
Dr. Kiran C. Patel Research Institute

August 24, 2015

Dr. Linda Bambrick
Grants Officer Representative
U.S. Army Medical Research and Materiel Command (MRMC)
Congressionally Directed Medical Research Programs (CDMRP)
Bldg: 1054 Patchel St
Fort Detrick, MD 21702
Office: 301-619-9977

Dear Dr. Bambrick,

Please consider this letter a request for a no cost extension for our project: Proposal 10169004 "Application of Intracoronary Near Infrared Spectroscopy of Identify Vulnerable Plaque and Predict Adverse Outcome" for a time period of 24 months. This is under contract W81XWH-11-1-0831 the period of performance ending 25 October 2016.

As you are aware, this trial began enrolling patients in 2013 and is accruing at a rate of 2-5 per month, usual for a significant risk cardiovascular study. Follow-up is desired for five years. We are requesting a 24 month extension as suggested by the contracting office. This should allow adequate enrollment and follow-up for meaningful analysis. We understand no additional funds are a part of this action and we have sufficient funds to complete this work.

As per your instructions, we have included a revised budget, and revised SOW as well as interim data analysis. Also attached are our most recent quarterly report documents.

Sincerely,

Charles R. Lambert, M.D., Ph.D., M.B.A., F.A.C.C., F.S.C.A.I., F.A.H.A., F.A.C.P.
Medical Director, Florida Hospital Pepin Heart Institute and Dr. Kiran Patel Research Institute
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